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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/840,084

04/24/2001

Kyu-Hwang Chung

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06/17/2004

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EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/840,084

Applicant(s)

CHUNG, KYU-HWANG

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3, 11 and 17-20 ~~is~~ are allowed.
- 6) ☒ Claim(s) 1, 2, 4-10 and 12-16 ~~is~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0504.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 01, 2004 has been entered.

Accordingly, claims 1, 3, 9 and 11 were amended. Currently, claims 1-20 are pending in this application.

Claim Objections

2. Claim 8 is objected to because of the following informalities: claim 8 recites the limitation "said ground contact" in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

3. Claim 16 is objected to because of the following informalities: claim 8 recites the limitation "said ground contact" in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 2, 4-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (Fig. 1) in view of Hansell, III et al. (USPN 5,176,538).

Re claims 1 and 9, as shown in Fig. 1, Applicant's Prior Art discloses a flat panel displaying apparatus, comprising (see Specification, pages 6 and 7, paragraphs 23-27):

a liquid crystal display module 117 displaying a picture;

a chassis 119 surrounding edges of said liquid crystal display module, defining an external appearance of said flat panel displaying apparatus;

a printed circuit board 125 provided with a connector 127 connected to an external system by a connection cable 151, said printed circuit board being grounded to said chassis by screws 137;

a liquid crystal display controller 129 provided in said printed circuit board, said liquid crystal display controller activating said liquid crystal display module; and

a ground portion 135 formed around said liquid crystal display controller.

Re claims 4 and 12, although it has not been shown in Fig. 1, some of the ground portions 135 formed adjacent to signal lines 133 on the respective substrates are interconnected through holes and connected to the chassis by screws 137.

Applicant's Prior Art discloses a flat panel displaying apparatus that is basically the same as that recited in claims 1 and 9 except for a reinforcement connector connected to said ground portion and supporting the ground of said printed circuit board.

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As shown in Figs. 1-3, Hansell discloses a connector 1 having a reinforcement connector 8 (ground spring finger) connected to and formed with a ground portion 6 and supporting the ground of a printed circuit board (PCB) 21 via a ground pin 17 formed in a header 20 of the PCB 21, this reinforcement connector 8 is provided on the header 20 of the PCB 21,

wherein, re claims 2 and 10, said reinforcement connector 8 is connected to a connection cable 10 via a ground conductor 13 which contacts the ground portion 6;

wherein, re claims 5, 7, 13 and 15, as shown in Fig. 2, Hansell further discloses a second reinforcement connector 8 connected to the connection cable 10 and the ground portion 6, said reinforcement connector supporting a ground of said PCB 21;

wherein, re claims 6 and 14, as shown in Fig. 2, said reinforcement connector and said second reinforcement connector are on opposite sides of the connector 1 (one on left and the other on right) coupling with the connection cable 10, said connector 1 receiving data signals via signal conductor 15 and contact 12 from the external system to said PCB (col. 3, lines 50-53); and

wherein, re claims 8 and 16, the connector 1 has a ground pin 17 connected to said reinforcement connector accommodating said connector to be grounded through said ground portion 6.

Hansell teaches that the spring ground finger is mechanically stressed prior to ground pin insertion thus enabling it to achieve a high normal force and ensuring reliability and environmental stability when engaged (col. 3, lines 40-45).

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Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the flat panel display apparatus of Applicant's Prior Art of with the teaching of Hansell by employed a reinforcement connector connected to the ground portion and supporting the ground of the printed circuit board for enabling to achieve a high normal force and ensuring reliability and environmental stability when engaged with the connection cable (col. 3, lines 40-45).

Allowable Subject Matter

6. Claims 3 and 11 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claims 3 and 11, none of the prior art of record discloses, in combination with other limitations as claimed, a reinforcement connector comprising:

- a connector body formed with a housing portion receiving said connection cable;
- a cover provided in said connector body, opening and closing said housing portion, to fasten said connection cable in said housing portion; and
- a ground contact provided in said housing portion of said connector body, said ground contact connected to said connection cable and said pound portion of said printed circuit board.

The most relevant reference, USPN 6,305,971 of Yu-Feng, fails to discloses a ground contact connected to a connection cable and a ground portion of a printed circuit board. As shown in Fig. 4, the Yu-Feng's reference only discloses a connector (flat cable insertion socket) comprising a pivotally connected cover 30 opening and closing a

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housing portion 20 to facilitate easy insertion of a flat cable 10 and to fasten the cable in the housing portion to avoid poor electrical connection (col. 3, lines 3-7 and 49-62).

7. Claims 17-20 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claim 17, none of the prior art of record discloses, in combination with other limitations as claimed, a method comprising:

lifting a cover of a reinforcement connector disposed adjacent to a connector of a liquid crystal display, said reinforcement connector being connected to a ground portion;

inserting a connection cable having a ground pin into an inside portion of said reinforcement connector below said cover;

moving said cover downward to close a housing portion of said reinforcement connector; and

engaging a ground contact of said reinforcement connector with said ground pin of said connection cable.

The most relevant references, USPN 5,176,538 of Hansell III et al. and USPN 6,305,971 of Yu-Feng, fail to disclose or suggest that method. The Hansell's reference discloses a reinforcement connector comprising a cover and a ground spring finger connected to a connection cable and engaging with a ground pin of the PCB; however, the cover of Hansell does not have a function for lifting and moving downward and the connection cable of Hansell does not have a ground pin. Meanwhile, as shown in Fig. 4, the Yu-Feng's reference only discloses a connector (flat cable insertion socket)

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comprising a pivotally connected cover 30 opening and closing a housing portion 20 to facilitate easy insertion of a flat cable 10 and to secure the cable in place to avoid poor electrical connection (col. 3, lines 3-7 and 49-62).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

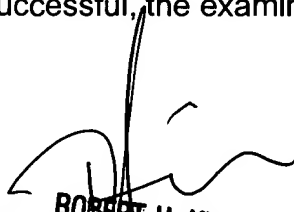
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong



06/07/2004



ROBERT H. KIM
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